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ABSTRACT

The objectives of this paper are (1) to present the relationship of play to language and cognition, (2) to describe the stages of play and discuss recent literature about the characteristics of play, and (3) to describe the use of play with the multifaceted goals of cognition, pragmatics, semantics, syntax, and morphology as an intervention strategy with language disordered children. Applications of play in the meeting of language and cognitive goals are discussed. Actual examples of the incorporation of the play framework within a therapy session are described for the Sensorimotor and Pre-operational stages. The importance of matching play activities with the child's level, interest, and interactional capacity is stressed. Four pages of references are included. (Author/CL)

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APPLYING PLAY TO THERAPY

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ABSTRACT

Presently, there is considerable attention on child play. Some interesting speculations have been drawn about the correlation among play, cognition, and language. Applications of the direct use of play in language therapy are limited, however. The objectives of this paper are 1) to present the relationship of play to language and cognition, 2) to describe the stages of play and discuss recent literature about the characteristics of play, and 3) to describe the use of play with multifaceted goals of cognition, pragmatics, semantics, syntax, and morphology as an intervention strategy with language disordered children. Applications of play in the meeting of language and cognitive goals will be discussed. Actual examples of the incorporation of the play framework within a therapy session are described for the Sensorimotor and Pre-operational Stages.

APPLYING PLAY TO THERAPY

Play is frequently used for various purposes in therapy. Teachers and clinicians, need to become aware, however, of the stages of play for appropriate selection of materials and, particularly of activities. Foremost is the idea of the use of play to its full advantage--as a strategy for obtaining language from language disordered children. There are numerous references in the literature to play, but few are related to direct application in the therapeutic situation. The intent of this paper is to explain the relationship of play to language and to cognition, describe the stages of play, and address the issue of the incorporation of play as an integral part of therapy. Play can be used appropriately by any teacher or clinician who is working with a language disordered client.

In the past, play has been used in various forms in therapeutic and training situations. Its function has been that of a fringe benefit rather than a direct role in teaching. It has been used as a motivational device to gain a child's attention in order to focus on the work at hand. Novelties and games may begin sessions to ensure initial attention to the therapeutic task. Such games are often presented without regard of the effect of the game on performance itself. In a similar fashion, play in some form is presented at the end of training periods as reward or reinforcement. Frequently, the game is a diversion for a job well done rather than an intrinsic part of the learning. In a similar way, free play periods, either at the beginning or end of a lesson, are used to allow a child to "wind-down"

for serious activity or to "wind-up" the day's activities. Many teachers, who use play as a sort of fringe benefit feel there is something intuitively good about play. Play is often considered refreshing and enlightening, especially while observing child behavior, yet play as a teaching tool is rarely a part of the curriculum.

Play does have an organized role in some therapeutic forms which require a type of psychological outlet for disturbed children. Non-directive play therapy as suggested by Wolpe (1957) or Hejna (1960) allow the child to express feelings or provide release from troublesome attitudes. While play in this psychological form may bring about a change behavior, the play activities, themselves, are not planned for the purpose of teaching or training of concepts.

Interestingly, past psychologists have briefly acknowledged play and attempted to determine its function. G.Stanley Hall developed his Recapitulation Theory while Herbert Spenser described play as an expenditure of excess energy. Others have ignored play as trivial or been influenced by the Puritan work ethic portrayed in these wise sayings, "an idle man is the devil's workshop" and "work now, play later."

More recently, play, as an observable phenomenon, has become more visible and acceptable. While not utilized to its full benefit, teachers accept its prominence in the life of a child. Perhaps the actual contribution of play has been overshadowed in the recent past

by other interests which lay in the linguistic aspects of language learning. Training in grammatical rules and, more recently, the semantic/cognitive domains have taken precedence in therapeutic planning. By now most clinicians are well grounded in stages of linguistic growth as well as cognitive development, particularly from a Piagetian view. The pragmatic approach, emphasizing language use and the importance of intentions in expression of linguistic forms has caught our attention as playing a major role in the language acquisition process. Our proposal in this paper is taking the pragmatic approach one step farther by pointing out that the most common situation and task for young children is play. Play can provide appropriate activities for developing therapeutic conversations.

To understand the application of play to language therapy, we hope to cover several topics: 1) highlight some interesting things about play from the literature; 2) suggest the role of play in language therapy and its link to language and cognition; 3) describe the stages of play in relation to cognition and language, and 4) demonstrate that play can provide context for language therapy as well as provide a source for cognitive growth through appropriate learning experiences. Play can be used successfully for both language and cognitive growth.

IMPLICATIONS OF THE RELATIONSHIP BETWEEN PLAY AND LANGUAGE AND PLAY AND COGNITION

There are some interesting things in the literature about play.

First of all, we might say that negative feelings toward play have been replaced by attitudes that play is not only natural, but is productive, useful, and beneficial. Surprisingly, there are numerous books, guides, pamphlets, and materials which provide ideas for play activities. Information is prepared for parents, day care workers, and teachers to foster enjoyable experiences in childhood. The emphasis on many of these is "fun" and interaction while vague illusions are conveyed about providing learning opportunities. Specific learning detail is rarely outlined.

Play has become visible in the professional literature, probably initiated by Piaget's interest in play as characteristic of stages of adaptation and play as representative of different stages of cognitive growth. Currently, play seems to be well defined although its actual definition is quite illusive. It may well be that play has become a focus of attention now that professionals realize that there is more to language than the linguistic aspects of learning. Research has clarified specific characteristics of play. Play seems to be representative of another aspect of developing maturity; there seem to be different structures of play which can be observed at different levels. Play strategies have been linked to cognitive development, suggesting that play is guided by thought, and indeed, play is representative of levels of cognitive behavior. Stages of language development have also been related to the maturity of play while it is said that play indicates the level of language.

Play, as a current topic of interest, contains possibilities of

inclusion into the general framework of child behavior and development although the application of play in teaching of specific language or cognitive skills is still lacking. Research findings are suggestive of links between play and cognition; these are becoming as prominent as links between cognition and language. A few examples follow.

Based upon the notion that play is related to cognition and is appropriate context for language learning, Jeffree and McConkey (1976) prepared a guide for parents to enhance language growth through play for children who are slow in acquiring language. Outlined in their book are stages of language growth and methodological procedures for carrying out play activities. No special instructions are given for the use of any activity with specific language structures, however. An accomplished language therapist could easily map out language and cognitive goals, but it is doubtful that parents have sufficient background. Symbolic play can provide opportunity for the collapsing of linguistic and cognitive goals within a workable scheme. Other than guides for parents, they have also written with the teacher in mind.

McCune-Nicolich (1977) remarked of the lack of attention on play during the time of emphasis on linguistic aspects of language learning as opposed to the cognitive states in learning language. She proposed that stages of symbolic play had a role in developmental theory and could be used in cognitive assessment. Her findings, which she found to be similar to the order described by Piaget, showed that children do pass through different play levels in an invariant fashion although

the pace of progress varied. Cognitive patterns evolving from the sensorimotor stage served as foundation for symbolic play and games. These conclusions were reached notwithstanding several methodological problems concerning setting, participants, and variations in preferred play behaviors in children. She found play to be a preferable method of assessment in that cognition could indeed be evaluated while the anxiety of the test situation was removed.

Fenson, Kagen, Kearsley, and Zebazo (1976) pointed out the dramatic changes in the structures of play which mirror the development of the cognition. A significant contribution was prepared by Musselwhite in her Adaptive Play for Special Needs Children. The text touches the areas of language, cognition, and play and their interrelations. She discusses rationales for strategies for play in incorporation in social and communicative interaction. Her suggestion is that imaginative play is related to thought and language and enhances their development. The book contains useful suggestions and presents play in structured forms to meet the needs of special children, but is still lacking in specific procedures.

Westby's Symbolic Play Scale comes closest to providing specific applications of play to the therapeutic domain. She suggests that symbolic play, characteristic of the preoperational stage, can provide a means for evaluating children's representational abilities. Both play and language require symbolic representation or mental representation of reality. Her scale a stage oriented scale, is designed to determine the need for language therapy and if so the

specific 1) communicative functions, 2) semantic notions, and 3) syntactic structures to be emphasized. In her use of the scale, she found no child to have a meaningful use of language beyond his cognitive play scale.

Others have included play, such as Wilcox (1984), who reintroduced the use of imitative play (on the part of the therapist) during the Verbal Expansion Stage of her therapy. This form of play may be used to advantage, yet more highly developed forms which include the child as an active participant may fulfill language and cognitive goals for language disordered children. The relationship of language and cognition have been elaborated upon in the literature.

RELATIONSHIP OF LANGUAGE AND COGNITION

Rice and Kemper (1985) summarize a number of different theories relating language and cognition. These range from a strong hypothesis, which views cognitive abilities as building blocks for language to a weak hypothesis which proposes that cognition does not account for all of language development. Falling inbetween are degrees of mutual interaction of language and cognition. These authors report Sinclair-de Swart as a proponent of the strong hypothesis in that she views language as an outcome of the early cognitive structures built upon life experiences. In keeping with the strong hypothesis, she proposes that cognitive prerequisites are essential for the development of linguistic structures, particularly in the early stages. In essence, cognition precedes language.

Many pragmatists, such as Bates (1976), link cognition and language but reject the idea that cognition necessarily precedes language. The weak form of the hypothesis can be illustrated in Bates' proposal that cognition and language parallel as a result of an underlying structure which allows for development. Bates indicates that a close mapping of the parallel forms of development can not always be traced. In fact, she contends that, particularly in later development, language is required for acquisition of cognitive structures. Studies in language disorders support the notion that the strict relationship or dependence upon cognition and language are difficult to specify. Miller (1981) for instance, found that linguistic abilities among some mentally retarded individuals exceeded their cognitive abilities. Thus, cognitive growth does not account in full for language development. Rice and Kemper conclude that there is no one single relationship between language and cognition but rather "tenuous linkages" between the two with influences on each other varying through development.

RELATIONSHIP OF COGNITION/LANGUAGE/PLAY

Regardless of one's theory of how cognition and language are related, growth patterns occur systematically over the course of time and can be observed and promoted through play. To clarify these relationships, stages of development for cognition and language are given in Table I and Table II.

(Table I)

(Table II)

The prominent periods of play, practice play, symbolic play, and play with rules, as defined by Piaget, match parallel developments in cognition and language as shown in Table III. Understanding of the relationships lead to the development of cognitive goals in planning for language goals within the context of play.

(Table III)

CHARACTERISTICS AND STAGES OF PLAY

Realizing the similarities of structures in play and cognition and their relationship to language, the properties of play are more fully defined in Table IV.

(Table IV)

A proposal to use play in the therapeutic process requires that we keep the concept of play in mind. Garvey (1977) has characterized play as the following: 1) enjoyable, 2) an end in itself with no intrinsic goals, 3) spontaneous, 4) voluntary, 5) active engagement, and 6) similar characteristics to activities not considered to be play. Play, as well as anything else, changes during its course of development and may, in its earliest stages be difficult to specify.

PRACTICE PLAY

Household objects serve as a basis for practice play and as a

foundation for later forms of play. Garvey (1977) describes the period as one in which the child manipulates objects and in the process gains control over his movements. The child learns to co-ordinate movements, perceive his efforts, and vary movements. The object, itself, is represented physically and developing schemas involve the objects used in play. The period is also a discovery period. Lowe (1975) observed the child as enjoying the ability to cause an event to occur. Play to the child can be a serious event.

McCune-Nicolich and Carroll (1981) refer to the early part of this period as presymbolic as well as prelingual. Gestures as a form of prelanguage communication are fused to action and signal desires. Vocables and Dore's Phonetically Consistent Forms are heard in play.

By the end of practice play, the child can differentiate between a play activity and the real thing, such as drinking from a cup. This is also the time of the emergence of single words and their eventual use as referents.

SYMBOLIC PLAY

The period begins by the Sensori-motor substage IV to VI. Its noted for its move from "presentational symbolizing" where an object needs to be present for play to "representational symbolizing" where an object for play can be mentally represented. Symbolic play as it emerges at this period reflects two developments: 1) separation of meaning from action and 2) integration of symbolic behavior into logical sequences. The stage of symbolic play requires mental

representation in allowing one object to take on the function of another in order to carry out a sequence of play. It involves pretending that one object is another or pretending actions are associated with other circumstances. Symbolic play requires object permanence and deferred imitation.

Object permanence and imitation allows for pretend play which is a manipulation of reality, and not of only objects and persons as in practice play (Chance, 1979). In fact, pretend play may even misrepresent reality in which the setting, topic, task, or persons can be altered through a reinactment of an event. This manipulation occurs through language use. Symbolic play is linked to emerging language--by use of words as referents and by later use of relational terms to indicate use of objects in ways not intended. Garvey suggests that pretend play is structured: 1) it requires the use of two or more objects, 2) a theme, and 3) roles. Pretend play begins around 18 months, blossoms at 3 and eventually is replaced by daydreaming. Thus, pretend play has is origination during the sensorimotor period but exists concurrently during the preoperational period.

Different levels of symbolic play have been specified by numerous authors, one being Westby (1980), who developed a scheme for analysis of language on the basis of stages of play. She suggests the organization of play is an indication of maturity level of language. Her substages are summarized along with observations of other authors at the different levels. Noteworthy is Westby's notations of the

different language forms expected.

Westby's Stage 4 and 5) (19+ months)

Westby's Level 4 and 5 are periods where the child is able to extend symbolism beyond himself to include others as actors and receivers of actions. The child's toys must be realistic to provide support for activity. Westby notes pretend behavior by Stage 5 through enactment of daily routines although structures and props must be present for play. The child can handle more than a single object in his play. Fenson, Kagen, Kearsley, and Zelazo (1976) note appreciation and early cultural use of objects.

McCune-Nicolich and Carroll (1981) note pretend behaviors which may encompass and be applied to two or more dolls such as feeding first one doll and then the other or a sequence of activities, such as feeding and then putting doll to bed. Play is strung together in a temporal sense.

Two word combinations are frequent which Westby examines on a linguistic level and relates to this stage of development. Lowe noted the cognitive and language functions to be similar. Word combinations and semantic relations express the play activity within the present. McCune-Nicolich and Carroll feel these two word combinations can be explained on the basis of the mutual associations within the activity rather than specific linguistic relationships. Their explanations of play knit the role of language and language development closely to play structures.

Westby's Stage 6

By 2 1/2 years, Westby observed that the child can pretend experiences not frequently observed although he still needs realistic toys. McCune-Nicolich and Carroll state that child can play ahead and that pretend actions can be extended to the doll as the performer. One object can substitute for another. Play can be sustained over a longer period and can take place along side a peer although Westy notes frequent shifts in roles .

Language is an important aspect in play in theme and role development. Play at this time reveals the child's capacity for language. An underlying cognition allows for hierarchical symbolic combination of play and language.

Westby's Stage 7 (3 yrs)

Westby contends that the child can relate several schemas to one another or within a sequence. Associative play is prominent but children engage in compensatory play in which events are reenacted with different outcomes. Verb tense is used to express these re-enactments. Other morphological devices are prominent, such as the use of possession in the assignment of roles.

Westby's Stage 8 (3 1/2 yrs.)

According to Westby, the child can use less realistic toys and object for one another or substitute an action. McCune-Nicolich and Carroll state that reasonable substitutes are selected on the basis of

the child's perceptions and generally transformed as they need to be. Westby suggests the knowledge of similarities and differences is required for substitution of objects in play. Size and other features are attended to in the pretend play. That is, a substitute car would have to be able to fit in a structure representing a garage. Garvey, however, describes a situation in which children do not always take size into account and sometimes struggle to make a fit when objects are mis-sized.

Dolls take on their own personalities rather than being purely manipulated by the child. The doll takes an active roll in play rather than early manipulative play of undressing or removal of items. Language growth is observed in the form of metalinguistic abilities: telling the doll what to say.

In addition, children generally converse about the transformation and require the use of language to carry out events.

Westby's Stage 9 (4 yrs).

Westby states that the child can hypothesize about the future and problem solve events he has had no experience with. He also builds elaborate three dimensional models as enclosure.

Language increases by use of modals and conjunctions to verbalize future intentions or anticipations. Children discuss role assignment. Less dominant children are assigned roles, usually suiting their state.

Westby's Stage 10 (5 yrs).

Westby notes that the child coordinates several events and use imagination for setting. He needs language to organize this behavior. Language is required to plan out and pretend for future events. McCune-Nicolich and Carroll note sociodramatic play with two or more children. This requires transferring personal fantasies to a peer. In most instances, only language can convey this type of play.

GAMES WITH RULES

Games with rules is a Piagetian classification which suggests orderly, internally consistent procedural steps taken by participants in a structured manner. Games are more formal than spontaneous play. They are shared activity of mutual participants. They require cooperative interaction. Explicit rules are followed and can be described, taught, and learned. By 7 to 9, games become competitive with the urge to win which may be lacking in early games.

This stage, Games with Rules, reflects the level of thought activity of the concrete operational stage. Organization for game plans come about as a result of the child's ability to behave logically and consistently. Rules can be set, followed, and evaluated before play resumes. Garvey (1977) suggests that games requiring logical thought have their beginnings in early turn-taking, such as Peek-a-Boo play. Thus, the more advanced levels of play are founded in earlier stages. Developmental changes are reflected in the manner of play.

Garvey points out that there are other forms of play--ritualized language play, jokes, or day dreaming. By this time, play may vary greatly as dependent upon many things: the mood of the child, the available items with which to play, the playmates, and the setting. Earlier forms of play may also be observed in later development. Occasionally, children in the concrete operational stage may indulge in forms of practice play. For instance, the newness of an object may affect play. Explorative play may dominate during the introduction of a new toy. Manipulative play and practice play may be used to test out the toy. Repetitive actions may be observed before imaginative elaboration takes place. During the period of newness, the child may remain essentially nonverbal--the toy, itself, taking precedence over any action with the toy. After investigation, more constructive and elaborate forms of play may be used with the toy. Familiarity with the operation of objects or sequence of steps will allow for interaction and verbal exchanges with others.

CLINICAL IMPLICATIONS OF PLAY

Realizing that play is not only a prominent activity of childhood but an indicator of cognitive and language development, we should consider incorporation of play into teaching strategies. We may begin by looking at some the characteristics of play and adapting them to the needs of clinical planning. Some characteristics of play may co-incide with clinical goals while others must be adapted to the therapeutic situation. Table V contains several characteristics of play which can be converted to "therapeutic play" by application of

clinical management. For instance, play has been described as an "end in itself"--children play for the sake of play with no end in mind. Clinical planning requires a goal to be established. Thus play must provide a method in order to acquire a "means to an end". Play is not to be allowed without intent, but with the intention of establishing and carrying out goals. This need not be apparent to the child, however. For instance, a play session could be planned to help the child acquire object permanence as well as the establishment of semantic strings without the child's being aware of these goals. Older children may be more cognizant of specific goals and still enjoy the play arrangement. Planning on the part of the clinician rather than allowing free or undirected play requires the arrangement of a setting and the development of a theme. Planning also requires a structure which can best be provided for by the construction of a play-task. The play-task is not only productive in terms of accomplishments but provides for aspects of the child's performance which can be rated and charted in the notation of progress. The clinician should keep in mind that play or any activity of the child reflects his culture. These patterns should be kept in mind when developing activities. Although play in its therapeutic sense is structured, the clinician should allow for the natural creativity that is observed in child play. Expected responses from structured activities must give way to the natural responses of children in order to promote creativity.

Other characteristics of play, such as frivolous, spontaneous, and exuberant may need to be tempered in the clinical setting to

encourage attention and cooperation. All in all the clinical activity should be a fun activity to provide for enjoyment of the learning experience.

Table V

The main premise of this paper is to promote the establishment of cognitive and language goals within the context of play. The play activity should match the level, interest, and interactional capacity of the child. For successful therapy sessions, one must be aware of the stages and corresponding developments in these three areas for any one particular child. The therapist can continually evaluate the child's abilities in this contextual setting, by adapting to new acquisitions or developments as they occur.

Examples of play sessions with cognitive and language goals are found in Appendix A for the Sensori-motor Level and Appendix B for the pre-operational level. Each index contains a description and coding of the cognitive accomplishments of the stage and a sample play activity with an outline of cognitive and language goals. The sample play activity for the late Sensorimotor Stage in Appendix A is a "play-kitchen" activity. The play activity for the Preoperational Stage in Appendix B is a "pirate" activity. Progress of play is outlined in steps with the accompanying cognitive and language goals. These two samples are intended as guides for planning additional activities. Any play activity can be designed within the same format.

When planning activities, opportunities should be provided for acquisitions of goals of succeeding stages. For example, if the child is within the late Sensorimotor Stage, the activities should also promote acquisitions of the Preoperational Stage. When a play activity is selected for carrying out cognitive and language goals, it is important to remember to allow for flexibility in the child's behavior and responses. There should be no single expectation of a child's performance since any number of responses may not only be appropriate but creative and revealing of thought and language.

Modification of procedures in accomplishing goals may be required when working with children from different cultural backgrounds. For instance, some children may not be able to participate in certain forms of play, such as pretend or sociodramatic sequences. In fact, some language disordered children may have not proceeded through stages of play as a consequence of involvement in development. A child's play habits and routines should be observed before planning goals and procedures.

Care should be taken in arrangement of setting and objects for play in order to carry out play, cognitive, and language goals. The types of props selected will affect the child's participation in an activity. Introduction of new objects may bring about earlier play behaviors, such as manipulation and exploration. Time may be required for investigation of toys before more constructive play can be expected.

The therapist must facilitate activities rather than hinder freedom in play. The role of the therapist is a reactor, a guide, and a support in play. Domination of routines will defeat the purpose of play as context for language and cognition.

Carryover is not an issue in the use of play. Play as context is an appropriate situation for practicing, experiencing, and generalizing events. These events become part of the child's cognitive store and are expressed in linguistic form. Play settings and tasks will heighten interest, attention, and voluntary cooperation. Moreover, the play attitude will create a closer communicative relationship between child and clinician.

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APPENDIX A

ACCOMPLISHMENTS OF SENSORY-MOTOR PERIOD

The accomplishments of the sensory-motor period are viewed as clinical goals. Activities are planned for the acquisition of the accomplishments that characterize the end of the sensory motor stage and mark the beginning of the preoperational stage. Below is a list of the accomplishments/goals with examples of behavior at two periods within the sensory motor stage:

Goal	Characteristic Behavior	
	Mid-late S-M	End S-M
Object permanence (ObP)	Child finds object hidden a single screen but loses interest.	Child searches for a hidden object through path in a complex pattern.
Spatial (Sp)	Child examines objects and relates them together functionally.	Child realizes absence of objects and fit of objects.
Means-End (M-E)	Child uses unattached tool to obtain object.	Child uses foresight to obtain goal.
Operational (Op)	Child realizes cessation of object and hands it to adult to activate.	Child attempt to activate motion of object.
Construction of object relations in space (Con)	Child adjusts self and objects to accomodate to activity.	Child indicates knowledge of presence/ absence of objects for activity.
Imitation (Im)	Child begins to imitate novel sounds or activities.	Child initiates imitation or upon request.

SENSORIMOTOR ACTIVITIES

SAMPLE ACTIVITY:

This activity involves unloading groceries from a sack, putting some of them away, and preparing some of the food items.

Grocery Items: carrots, lettuce, bananas, apples, bread, milk, grapes, etc.

Progress of Play:

OP/S	1)	Put food in sack, one item at a time. As food is placed in sack, identify it, and pass the items through an arc, some as large as 180 degrees.
OP/ME/COS	2)	Let child carry sack to sink. Pretend there is a barrier. Child must avoid a barrier to get to the sink.
ME/COS	3)	Have a covering of some sort on the sink to prevent the child from placing the groceries on the sink. Hopefully, the child will communicate the need for help in removal of the object so that the groceries can be placed on the sink.
OP/ME/COS	4)	Put groceries in sink one at a time, again identifying and passing each item through a visual arc.
PP	5)	Play wash some of the items.
OP	6)	After items are washed and in the sink, ask for items that are partially hidden by other items.
ME/COS	7)	Put some of the items in the sack and carry to the refrigerator. Provide a barrier from sink to the refrigerator. Plan for the child to miss the barrier.
OP	8)	Ask for items one at a time from the sack that are hidden from his/her view.
S	9a)	Begin to place items in the refrigerator. Put in carrots, for example.

S	9b) Then get ready to put in apples, but ask child to get a bowl for the apples. Provide a bowl that is too large for the refrigerator. Tell child to find a smaller bowl.
ME/COS	10) Place other items in refrigerator, but leave some in the sack. Finally, have one of the items in the refrigerator in the way of the door keeping it from shutting. Instruct child how to adjust for the closure of the door.
OP	11) Ask for items for food preparation. Ask for milk which is in the refrigerator and for bread from the sack. Instruct child about the different locations of the items in terms of where he/her last saw them.
PP	12) Take items and play "cook". Stir food and pour in bowl.
S	13) Select an appropriate size bowl.
ME/COS	14) Get ready to put prepared food in oven. Have obstacle in front of oven that must be avoided.
ME/COS	15) Provide a latch on oven door. Assist child in opening door.
S	16) Put prepared food in oven and place it in the middle.
PP	17) Wait for food to "cook".
S	18) Prepare more food and fit it in the oven along side the other pan.
OP	19) Ask for items from the refrigerator, sack, and the stove.

NOTE: Imitation is used throughout this activity.

LANGUAGE MODELS FOR "PUTTING GROCERIES AWAY"

Morphological goals: present progressive verb form, in/on, want (wanna) .

Syntactic goals: sentence order: N + MV + N + prep ph.
N + wanna + V + N + prep ph.
Where + N + V + N
Yes/no questions

Semantic goals: agentive + action + objective + locative

Pragmatic: preciseness: turn-taking and specifying agents, actions, objectives, and locatives.

Provide language models as you carry out the activity. Talk and act simultaneously. Take turns with the children in carrying out the activity. Within the routine of turn-taking, provide model sentences for the child to pattern. Children will begin to repeat models meaningfully if models are directed toward them and if sufficient pause time between conversational turns is allowed. Always acknowledge the child's effort in taking his turn to speak. Provide models such as the following for each step of the play procedure. Encourage imitation of action patterns along with descriptions.

1) We are putting the food in the sack. I wanna put the carrots in the sack. I see some lettuce in the sack. We want to put the bread in the sack now. Do you see the grapes in the sack? The milk is on the table. Put the milk in the sack. Where are you putting the bananas?

2) I am carrying the sack. Where are you going? Are you taking the groceries to the sink? Are you going to step on the wall? You want to go to our door. You want to walk to the sink.

3) Where are you going to put the groceries? Somebody put a cloth in the sink. Where do you want me to put the cloth? I am throwing the cloth on the chair.

4) I am getting the bananas in the sack. I am putting the bananas in the sink. Where are you putting the grapes? Are you putting the grapes in the sink? Are you dropping the apples on the floor? Be careful. Put the apples in the sink.

5) I want to wash the grapes. Do you want to wash the apples? You are spilling water on the apples.

6) I want to see all our groceries. We are putting all our groceries in the sink. Where are the bananas? Are the bananas in the sink? Where are the grapes? I want to find the carrots in the sink. We want to find all our groceries.

7) We want to put them in the refrigerator. I am putting the groceries in the sack. We are carrying out sacks to the refrigerator. Be careful. Are we going to step on the wall? I am walking on the floor. We do not want to walk on the wall.

8) Find the carrots in the sack. Are the bananas in the sack? Are the grapes on the table? Are the grapes in the sack? I want to find the lettuce in the sack.

9) I am holding the lettuce in my hand. I want to put it in the refrigerator. Are the grapes in the sack? Put the grapes in the refrigerator. I am putting the bread on the table. I am putting the milk in the refrigerator.
Do you want to put the apples in the refrigerator? I want to put the apples in a bowl. We want to put the bowl in the refrigerator. I want to push the bowl on the shelf. Look. The bowl is too big. I want a small bowl. We want to put the bowl on the shelf. Now we are putting out apples in the little bowl. Now we are putting the little bowl on the shelf in the refrigerator.

10) You are putting the carrots on the shelf. The carrots are in the refrigerator. I want to shut the door. I want to push the door. We cannot close the door to the refrigerator. We need to push the carrots away from the door.

11) We want to make our lunch. We are getting some milk in the refrigerator. We are getting some bread on the table. Find an apple in the sack.

12) We want to make apple pudding. I am cutting the bread. I am cutting the apple. I am putting the bread on a pan. I am putting the apples on the bread. Do you want to pour the milk in the pan?

13) You are spilling the milk on the table. We need a bigger pan. This one is too small. Let's put our bread and apples on the the big pan. Do you want to pour the milk in the big pan?

14) We want to cook our pudding. We want to put the pudding in the oven. Do you want to open the oven door? Wait. We can't open the door. The chair is in front of the oven. Do you want to move the chair?

15) Are you opening the door? Are you pulling the door? We want to open the door to the oven. We want to open the latch.

16) Do you want to put the pudding in the oven? Put the pudding on the shelf. Put the pudding in the middle on the shelf.

17) We are waiting. We want to cook the food in the oven.

18) Are you cutting the carrots? We are slicing the carrots in a pan. We want to put the carrots in the oven. Do you want to move the pudding on the shelf? Now put the carrots on the shelf too.

19) Our food is ready. Get the pudding in the oven. Get the carrots in the oven. Do you want the apples in the sack? I want some milk. The milk is in the refrigerator. Do you want some bread? The bread is on the table.

APPENDIX B

ACCOMPLISHMENTS OF THE PREOPERATIONAL STAGE

The preoperational stage is characterized by the accomplishments of the sensorimotor stage, particularly the mental representation of objects and events as separate from the actual occurrence. The child's actions are intentional although there is no formal planning and logic behind them. The preoperational stage lacks conceptual thought of the concrete operational stage in that the child's limited encounters with his environment do not allow him to accumulate sufficient experience to make judgments and acquire knowledge separate from his perceptions. Rather the child operates on the basis of his immediate perceptions. Thinking is unstable, organization is lacking, and reasonings vary from time to time. As a result erroneous conclusions are made in that perceptions of objects and events are affected by their surrounding relationships. The child judges the world on the basis of the distortions and ambiguity of sensory input. The child's mental activities, although characterized by many types of errors in thinking, serve as the roots and foundation of the concrete operational stage. The sensorimotor adaptations continue to develop in repeated experiences and eventually provide for new ways in dealing with problems. As a result of the erroneous thinking styles, the preoperational stage is usually described in terms of these patterns of thought. The child at this stage is perceptually bound or a creature limited to his own view of objects and events.

Although these thought processes interfere with logical thinking, certain accomplishments are realized during the pre-operational stage and should be developed through choice of clinical activities. Notably, the characteristic accomplishments of this stage include

Play. Play is representative of an event in which objects are manipulated. Pretend play allows the absence of objects or substitution of other things to represent objects in order to carry out an event. The child realizes the difference between play and reality.

Image. Mental representations of specific objects, actions, and events are developed and used in thought. The child makes the distinction between the image and the actual object, action, or event.

Perceptual schemas. Perceptions provide for mental representations. The schemas are built upon what it is that is perceived. The external event is as the child sees it.

From a clinical viewpoint, the child's mode of thinking must be taken into account as activities are presented. Realizing that children operate on the basis of perceptions and intuitions coming from limited experience, it is the goal of the clinician to offer experiences to bring about change in thinking patterns. The activities should possess specific procedures directed toward the goal of providing experience to change thought patterns.

The following list includes prominent thought patterns of the pre-operational stage along with a description of the process.

THOUGHT PATTERN	DESCRIPTION AND SAMPLE ACTIVITY
Decentering (DC)	Inability to coordinate two or more features of an object or event; focus shifts from one attribute to another.
Topological (Top)	Inability to see the relationship among parts of objects or to sequence in logical order.
Transductive (Tr)	Inferring one instance to another particular instance when there is no relationship.
Pseudo-learning (P-l)	Provides information without understanding the consequences. Lacks schema for explanation.
Animistic (An)	Assigns human qualities to non-human entities.
Lack of reversibility (Rev)	Cannot reverse thought processes. Does not understand in-class grouping.
Static thinker (S-t)	Sees things are they are and does not realize the outcome of events.
Egocentric (Eg)	Fails to take the view of others into account.

PREOPERATIONAL ACTIVITY

PIRATES

Room is set up with the following items:

Materials for pirate hat: black paper, stencil, stapler, skull and crossbones for front of hat.

Treasure chest full of: gold coins, jewels, materials of differing textures, dried fruits, goblets, and a container of water.

Pirate clothes: eye patches, striped shirts, and swords.

Progress of Play

Pretend	1)	Discuss how today you're going to play pirates.
	2)	Begin making pirate hats.
S-T		Discuss other types of hats and how you put them on your head for protection.
	3)	Trace pirate pattern on pieces of black paper.
Top		Make sure you trace to the pattern's edges. Put pattern in middle of paper to trace.
Eg		As you are making the hat, ask if your hat on the paper is the same as the child's hat on the paper?
	4)	Cut out patterns.
Top		How do the scissors work? - You move your hands and they cut.
Eg		The child turns the paper to accommodate cutting. He/she can help you in cutting. Ask if you are holding the paper right.
Cen		After the paper is cut out ask the child which paper is bigger, the shape of the hat or the scrap that is left?
	5)	Put a skull and crossbones on the hat.
Cen		Note the dab of glue as opposed to when it is spread, is it the same?
Top		Spread the glue to the edges of the paper.
	6)	Staple the pieces together.
P-1		Ask the child what will happen when you staple the sides together.
P-1		Talk about why you should be careful and not put your fingers under the stapler.
Top		Discuss whether both sides of the hat are the same size.

7) Put on hats.

Pretend — Now we are pirates. Talk about what else pirates wear and pretend you have pirate clothes on.

8) Make a pirate ship to go off to find buried treasure.

Pretend — Put chairs together to make a boat.

Top — Line up the chairs so they are next to each other.

Eg — Make sure the chairs are turned so that everyone can get into the boat easily.

9) Get into the boat and go on a trip to find the treasure.

Pretend — The boat is moving.

An — What do we do to make the boat go, it doesn't go by itself?

10) Open the trunk full of treasures.

Eg — Move to accommodate all in seeing in the trunk.

Cen — Take gold coins out of the bag and put them on the floor, are there the same amount of coins?

11) Take out the goblets, water container, and dried fruit and have some lunch.

Cen — Pour water in the goblets, is it the same amount as in the container?

Eg — Have the children each sit at the table so they can all reach the fruit - accommodating postion.

Rev — Ask what will happen if they all take the fruit - the bag will be empty.

12) Look at the gold coins.

Top — Each child lines up the coins in a row and splits them.

Cen — Are they the same coins that were in the pile?

13) Take the treasure, get in the boat, and go home

Other ideas:

Pirate map:

Top follow the map to find the treasure

Rev the treasure is out of the treasure box, is it still treasure

Pirate Hat:

1) Cut out stencils.
2) Child traces two stencils on black paper.
3) Glue the skull and crossbones on the front of the hat.
4) Staple sides.

LANGUAGE MODELS FOR "PIRATES"

Morphological goals: subject/verb concord within and across phrases
Syntactic goals: elaborated sentence types, particularly relative clauses and "when" clauses
Semantic goals: elaborated attributive and temporal clauses.
Pragmatic goals: preciseness in specifying intentions.

Provide language models for the child's meaningful repetition. Develop a pattern of therapeutic conversational turns in which you deliver the model, the child repeats or modifies the model, and you acknowledge the child's effort by repeating and elaborating the model. Following are some examples of model sentences that can be used in this play format.

1) Pretending to be pirates: We're going to play "pirates". It's the game that you wanted to play. Remember? "Pirates" is the game that <u>you</u> wanted to play? Can you pretend to be a pirate? A pirate is a man who sailed on a sailing ship a long time ago. He sailed on a ship that looked like a warship. A pirate had to balance himself when he walked on the ship. The ship rocked back and forth when it rode the waves. Can you pretend to walk like the pirate who is sailing his ship over the waves?

2) Making pirate hats: We need to have hats that pirates wear. Do you know what kind of hats that pirates wear? Are pirate hats like the hats that firemen wear--or that cowboys wear? No, pirates have their own special kind of hats. Let's make the kind of hat that pirates wear.

3) Put your pattern on the paper that is on the table. Don't put your pattern on the paper that is on the shelf. After you put your pattern on the paper that is on the table, begin to trace around the pattern. Is your hat pattern the same one that I have? I have the pattern that is torn. Yours is not like the one that I have.

4) Get the scissors that are in the drawer. The scissors that are in the drawer are sharp. Be careful when you begin to cut around the pattern. Are you cutting on the line that you traced? Are you cutting at the same place on the pattern that I am cutting on mine? Stop cutting when you get to the top of the hat. Then tell me when to stop cutting on my hat. We have cut out hats that pirates wear. Look at the paper that is left over from cutting. Where is more paper--the paper in the hat that we cut, or the paper that is left on the table?

5) After you cut out the skull and crossbones, get the glue. Yours is the glue that is on the table. We will paste the skull and crossbones that you made on the hat. Then, the hat will look like the one that pirates wear. They wear hats when they are on their sailing ships. Look at the glue that is on the hat. Do we have more glue when it is spread to the edge of the paper? Or do we have more glue when it is in a glob?

6) Now we need to staple the pieces that fit together. What will happen to the pieces after they are stapled together? Are both sides of the hat the same size? Are they the same size when they are stapled together? Are they the same size when they are separated?
Do not put your fingers under the stapler when you staple the pieces together. I do not want to have to pull a staple that is in your finger!

7) Let's put on the hats that we made. Now we look like pirates who sail the seas. But we need more clothes. We can make more clothes when we have all the materials.

8) Let's pretend that we are pirates who are hunting a treasure. We want to find a treasure that is burried. We need to build a ship that can carry us to the treasure. The chairs will be our boat that will carry us to the treasure. Line up the chairs to make a boat before you "get on" the boat. Did you get on the boat after it was built? Did everyone get on the boat? Is everyone facing the same direction that you are?

9) Now we are on the boat that belongs to the pirates. After we get on the boat, it will move? Can you pretend that the boat is moving? Will the boat move by itself? When we row, the boat will move. We have to row and row. When we pretend to push with the oar, the boat will move.

10) Now we are sailing on the boat that is far out at sea. After we sail for awhile, we will see an island that is in the middle of the sea. We will look for the treasure that is buried on the island. We found a trunk that is full of treasure. Can everyone see the treasure that is in the trunk? After we look at the coins, we will take them out of the trunk. Then we will put the coins in a sack. Will we have as many coins in the sack as there were in the trunk?

11) Pour the coins out of the sack. Are there as many coins on the table as there were in the sack? I am going to line up the coins that were in the sack. Now do I have more coins?

12) We worked hard when we sailed and when we hunted for the treasure. After we work, we will eat our lunch. We will pour some water (juice) from the pitcher into the glass. Do we have more water when it is in the glass or in the pitcher? We can eat the fruit that is in the sack. We have grapes and cherries? After we eat all the fruit, will we have some cherries left?

13) After we finish our lunch, we will get back on the ship. We will take the treasure that we found. We will carry the coins that are in the sack. Pretend that we are rowing. When we row, the sailing ship will move. After we sail, we will see our home. When the boat stops, we can get off. We will take home the treasure that we found.

SENSORI MOTOR STAGE

Subatage 4 (9-12 aontha)
Beginninga of object peraanance; begina to aearch for hidden objecta.
Will loae intaraat.
Maana/End: intention of uaa of toola, auch aa atring on pull-toy.
Spatial: Beginninga of relating objecta togathar aa in puttling pallata in a bottla.
Operational: givaa toy to adult in order to raanact of a toy.
Imitation: imitatas familiar aounda and gaaturaa.

Subatage 5 (12-18 aontha)
Object paraanance: hapharzard but continuad aaarch for hidden objecta.
Maana/and: uaa of unattachad tool for ratraival of objecta.
Spatial: Fills and aaptiaa containara.
Avoids barriara.
Beginninga of block play and atacking.
Operational: attaapta to activata toy aftar invaatigating ceaaation.
Imitation: copiaa unfamiliar gaaturaa and aounda.
Subatage 6 (18-24 aontha)
Object paraanance: ayataaatic aaarch for object aftar a nuabar of diapiaceaanta.
Internal raprasantation of object.
Maana/and: beginninga of foraaight to datarmina goal.
Play with atack toya.
Spatial: racognition of praaanca and abaanca of objecta.
Block play and atacking.
Operational: routinaly works to activata toya.
Imitation: will imitata upon raquaat.
Raprasanta actiona ayabolicly.
Pretanda actiona with own body.

PRE-OPERATIONAL STAGE
Praconcaptual (2 to 4 yaara)
Mantal raprasantationa of objecta in anvironaant.
Syataaatic aaarch for objecta.
Parceptually-bound: oparatas on baaia of tha aannar in which ha haara and aaaa hia anvironaant.
Sorta on baaia of iaaadiata parception.
Unabla to racognize aimilaritiaa.
Cantration: focua on ona faatura of an object only.
Imitation: imitatas voicaa and actiona of othara.

Intituitiva (4 to 7 yaara)
Mantal imagry: thought baconaa fread fraa anvironaant.
Still unabla to raconatruct imagry varbally.
Parceptual bound: continuaa to judga on the baaia of appaarance.
Bagina to aort on the baaia of a ainglo claaaification.
Bagina to uaa order and aarializa.
Tranaductiva thinking: infara fraa an inatanca to anothar.
Saaa ralationahipa on the baaia of aurfaca appaarance.
Egocantricity: oparatas fraa hia own point of viaw; doaa not taka the parapactiva of othara into account.

CONCRETE OPERATIONAL STAGE (7 to 12 yaara)

Dacantration: focua on aora than ona faatura of an object or avant.
Bagina to aaa part/whola ralationahipa.
Raaaraibility of thought--ia abla to raaaon on baaia of raaaraa anactaant.
Mantal oparatiana: thought raplaaaa actiona in aolution.
Conaarvation: undaratanda tranaformation of thinga in variad arrangaaanta.
Tiaa/aiza ralationahipa.
Claaa incluaion.
Socialization: takaa othara' parapactiva into account.
Rula bahavior: forma procaduraa for action and thought.

Table I Stages of cognitive growth (from Piaget).

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PRE-LANGUAGE COMMUNICATION
(9-12 months)

Interaction between infant and caretaker during an event.
Comprehension of routines

Illocutionary acts
- Pointing
- Showing
- Giving

Pragmatic intentions
- Requests
- Protests
- Regulation
- Greeting
- Labeling
- Announcing

ONE WORD STAGE
(12-18 months)

- Early words/nursery vocabulary
- Idioms/routines
- Words code meaning
- Words: new information

TWO WORD STAGE
(18-24 months)

- Topic-comment strings
- Beginnings of semantic strings
  - Nomination
  - Agent + Objective
  - Possession + Objective
  - Action + Locative
  - Recurrence + Objective
  - Absence + Objective
  - Rejection + Action
- Turn taking
- Sustain self-initiated topic

BROWN'S LINGUISTIC LEVELS

LEVEL I (24-26 months)
- MLU 1.75
- Semantic relations: action + objective + locative)
  possessive + objective + locative
- Sentence Types
  - Simple active affirmative declaratives
  - Questions
    - Yes/no questions
    - What identity
    - Routines
  - Negative forms
- Respond better to adult remarks
- Sustain topic

LEVEL II (28-20 months)
- MLU 2.25
- Beginning of morphology--
  ing, in/on, and plural forms
- Questions--added forms (What doing)
- Negatives--negative preverbs
- Sustain interaction

LEVEL III (31-33 months)
- MLU 2.75
- Added morphology
  past tense, articles, possessives
- Expanded sentences types
- Expanded semantic system and increased vocabulary
- Supply sufficient information

LEVEL IV (36-38 months)
- Morphology--
  possessive, copular and auxilliary forms,
  third person simple present tense.
- Questions and negatives--
  Use of models, auxiliaries, and copular forms
- Observe "sincerity" principle

LEVEL V (41-48 months)
- Obligatory use of morphology
- Beginning of sentence co-ordination.
- Use of "contingent queries"
- Code switching

POST LEVEL V (4 TO 5 OR 6 years)
- Sentence co-ordination with use of connectives
  - Mastery of "and"
  - Continued problems with negative and temporal connectives
  - Communicative interaction with a number of intentions

LATER LANGUAGE LEARNING (after 5 years)
- Sentence subordination
  - Dependent clauses
  - Relative clauses
- Interruption hypothesis
- Sentences with mismatch of deep and surface structure
- Takes other person into account

Table II. Stages of language development.

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COGNITION	LANGUAGE	PLAY
SENSORI MOTOR STAGE		
Sub-Stage IV (9-12 months) Beginning of object permanence Beginning of object relations	Prelanguage (9-12 months) Comprehension of routines Intentions	
Sub-Stage V (12-18 months) Use of tools Removes barriers	One-word Stage: Nursery Vocabulary (12-18 months) Two-word Stage: Topic/Comment	Practice Play (9-24 months) Presymbolic Manipulative
Sub-Stage VI (18-24 months) Mental imagery of objects Foresight Imitation	True Two-word Stage: Semantic Relations (18-24 months) Beginnings of Sentence Forms	
PRE-OPERATIONAL STAGE		
Preconceptual Sub-Stage (2 to 4 years) Mental representations Perceptually bound Centration	Brown's Linguistic Levels I-V (2-4 years) Development of morphology Development of simple sentence types	Symbolic Play (2-6 years) Mental representation of objects Imitation Pretend Parallel play
Intuitive Sub-Stage (4 to 7 years) Transductive thought Egocentricity Syncretism	Post Brown's Level V (4-6 years) Beginnings of sentence co-ordination	
CONCRETE OPERATIONAL STAGE (7 to 12 years)		
Decentration Reversibility Conservation Socialization	Later Language Acquisition (7 years --) Subordinate sentences Clausal sentences with complex semantic relations Deep and surface structure mismatchs	Play with Rules (7 years to adult) Rules for play Organized games Competitive play Constructive play

Table III. Corresponding stages of development of cognition, language, and play.

PRACTICE PLAY (8-24 months)

Presymbolic: object is present for play
Self-directed: give objects to another
Manipulative:
Co-ordination of gestures with perceptions
Repeating and varying motions
Exercise in developing functions
Control over movements

SYMBOLIC PLAY (2 to 6 years)

Symbolic play: mental representations of objects in play
Imitation: re-enactment of events or characters
Beginning of pretend play
Multi-combinational play: use of more than one object; combination of several actions in an event
Parallel play: play from own perspective
Routine play
Exploratory: discovery of movements

PLAY WITH RULES (6/7 to -- years)

Sequenced rules for play
Purposeful intentions
Organized games
Co-operative games
Competitive games
Constructive play: making objects for a purpose use in a larger scheme.

Table IV. Stages of play.

PLAY	THERAPEUTIC PLAY	EXPLANATION
end in itself	mean to end	method
without intent	intentional	establish goals
unplanned	planned	plan setting & theme
unstructured	structured	construct task
unproductive	productive	chart results
encultured	encultured	follow traditions
creative	creative	allow flexibility
frivolous	serious	active involvement
spontaneous	directed	play role
boisterous	attentive	interest in task
exuberant	mirth	control activity
enjoyable	enjoyable	fun activity

Table V: Comparison of Play and Therapeutic Play